Australian Environmental Bulletin

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Welcome to the Australian Environmental Bulletin prepared by the U.S. Commercial Service in Australia.

This publication contains business intelligence on the Australian environmental market. The data provided in this bulletin is given solely as an information resource and does not imply endorsement by the U.S. Dept. of Commerce.

For further information on the articles in this publication or on any aspect of the Australian environmental market, please contact:

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Dioxins in Sydney Harbor

The New South Wales Government recently announced that all commercial fishing in Sydney Harbor had been halted due to elevated levels of dioxins detected in some fish and seafood. The area affected includes all of Port Jackson and it's tributaries. This announcement follows an extension of a December 2005 temporary ban on commercial catches of prawns and of other previous restrictions on fishing in certain areas such as Homebush Bay.

The dioxin problem in the Harbor comes from sediment in areas like the Rhodes Peninsula and Homebush Bay, a legacy of 100 years of industrial pollution by companies such as Union Carbide. The Rhodes Peninsula and Homebush Bay lie some 16 kilometers west of the center of Sydney and within 1.5 kilometers of Sydney Olympic Park.

From the early 1930s the western portion of the peninsula was primarily an industrial zone used for chemical manufacturing. As a result of the manufacturing activities on the site the land is contaminated with dioxins, organochlorines, toluenes and phenols. Land reclamation with contaminated material has caused marine sediment contamination which resulted in a commercial fin fishing ban being placed over Homebush Bay many years ago.

In June 1997, the NSW Minister for Ports announced that the dioxin contaminated sediments in the bay would be remediated. In February 1999 the NSW Government acquired the original site owned by Union Carbide which was the source of much of the contamination. The site had been remediated to a non-residential usage standard and currently contains a number of clay containment cells totaling some 300,000 cubic meters of contaminated material including dioxins and other intractable waste.

The objective of the Homebush Bay Remediation Project is to reduce dioxin contamination in the sediments of Homebush Bay and on the original Union Carbide site to make the bay safe and the land suitable for residential occupation.

The remediation contract is between the NSW Maritime Authority as the land-owner and Thiess Services as the remediation contractor.

An associated agreement exists between Trafalgar Corporate and NSW Maritime to deal with transfer of Lednez site ownership on completion of the dry land remediation activities.

The agreement provides for:

- Thiess to receive up to $20M (adjusted for CPI) for remediating Homebush Bay sediments.
- The clean up of Bay sediments must be complete by May 2010.
- Thiess will meet the cost of remediation of the adjacent dry land Lednez site.
- Thiess is responsible for obtaining and complying with all statutory consents required. These include the remediation development consent, and operating licenses for remediation equipment and environmental controls.
- Thiess must obtain certification of satisfactory clean up before payment is made.
- On independent verification of clean up to residential standard of the Lednez site, the remediation consortium will receive title to the site.
- The remediation work will be done in stages at the discretion of Thiess.
- There are performance guarantees in place which enable the Government to step in and take control of the project in the unlikely event that this proves necessary.
- Thiess is responsible for all community consultation for the life of the project.

U.S. firms with an interest in this project can contact:

Project Manager
Homebush Bay Remediation
NSW Maritime Authority
Locked Bag 5100
Camperdown NSW 1450
Email: homebush@maritime.nsw.gov.au

US$22 million in Government Funding to Protect Oil Recycling Industry

The Australian Government has committed to boosting its oil recycling programme with $30.1 million (US$22 million). The funding over the next three years will be provided to assist used oil recyclers counter the potentially negative effects of the Federal Government's Fuel Excise Reform. Through the reform, the Federal Government is seeking to remove fuel excise from most business inputs in an effort to lower compliance costs, reduce tax on business and remove the burden of excise.

Through the Product Stewardship for Oil Programme, the Australian Government encourages the collection and recycling of used oils which aims to ensure the environmentally sustainable management and re refining of used oil. Since the programme started in 2000, grants have been provided to state and local governments to establish a network of 828 used oil collection facilities. Under the programme, the volume of used oil collected, recycled and reused in Australia has increased from 160 million liter to over 220 million liters a year. Estimates suggest that about 80 per cent of this resource is now collected and reused.

There are currently 69 recyclers who recycle used oil to generate burner fuel. Approximately 95 percent (200 million liters), of the used oil currently recycled in Australia becomes burner fuel. Many recyclers are small businesses operating in regional areas.

Some key recyclers include:

Environmetal Oil Limited
166-170 Fitzgerald Rd Laverton North VIC 3026
Tel: 61-3-9369 7717

Nationwide Oil Pty Ltd
Level10 9 Sheerwood Rd Toowong QLD
Tel: 61-7-3870 7511

Fax: 61-3-9369 7790
E-mail: eol@ains.net.au
Internet: http://www.ozramp.net.au/~enviro

Oilclean Services Pty Ltd
10 Kylie Pl Cheltenham VIC 3192
Tel: 61-3-9532 3022
Fax: 61-3-9553 4846
E-mail: info@oilclean.com.au
Internet: http://www.oilclean.com.au

Southern Oil Refineries Pty Limited
42 Lewington St Bomen NSW 2650
Tel: 61-2-6925 8755
Fax: 61-2-6931 9005
Internet: http://www.sthoil.com

Worth Recycling Pty Ltd
Level 1 458 Rocky Point Rd Sans Souci NSW 2219
Tel: 61-2-8558 5100
Fax: 61-2-8558 5122
E-mail: enquiries@worthrecycling.com.au
Internet: http://www.worthrecycling.com.au

Fax: 61-7-3371 2125
Internet: http://www.transpacific.com.au

Oil Recyclers Australia Pty Ltd
136 Chalk St Wulkuraka QLD 4305
Tel: 61-7-3812 0646
Fax: 61-7-3282 8572

Tox Free Solutions Limited
45 Stirling Highway Nedlands WA 6009
Tel: 61-8-9439 2362
Fax: 61-8-9439 2363
Internet: http://www.toxfree.com.au

Truegain Pty Limited
62 Kyle St Rutherford NSW 2320
Tel: 61-2-4932 0488
Fax: 61-2-4932 0494

The Market for Air Pollution Control Equipment

The market for air pollution control (APC) equipment is valued at US$250 million and is conservatively estimated to grow by four percent annually until 2008. Australia manufactures an estimated US$50 million worth of APC equipment with local production forecast to also grow by four percent. The U.S. has a 36 percent share of the import market making it the leading supplier of APC equipment. The U.S. is expected to maintain this market share as total market demand continues to grow.

U.S. manufactured APC equipment is considered more competitive in specific industry subsectors, particularly in the areas of filtering or purifying equipment and gas or smoke analysis and monitoring equipment. The other major suppliers, by market share, are the U.K. (17 percent), Germany (11 percent) and Japan (six percent).

As in the U.S., the Australian air pollution control industry is driven by government regulations. Regulations have partly been responsible for creating mature APC markets in both the U.S. and Western Europe. In Australia, the APC market is still in an early growth phase primarily because development of its regulations have lagged behind those of the U.S. and Western Europe.

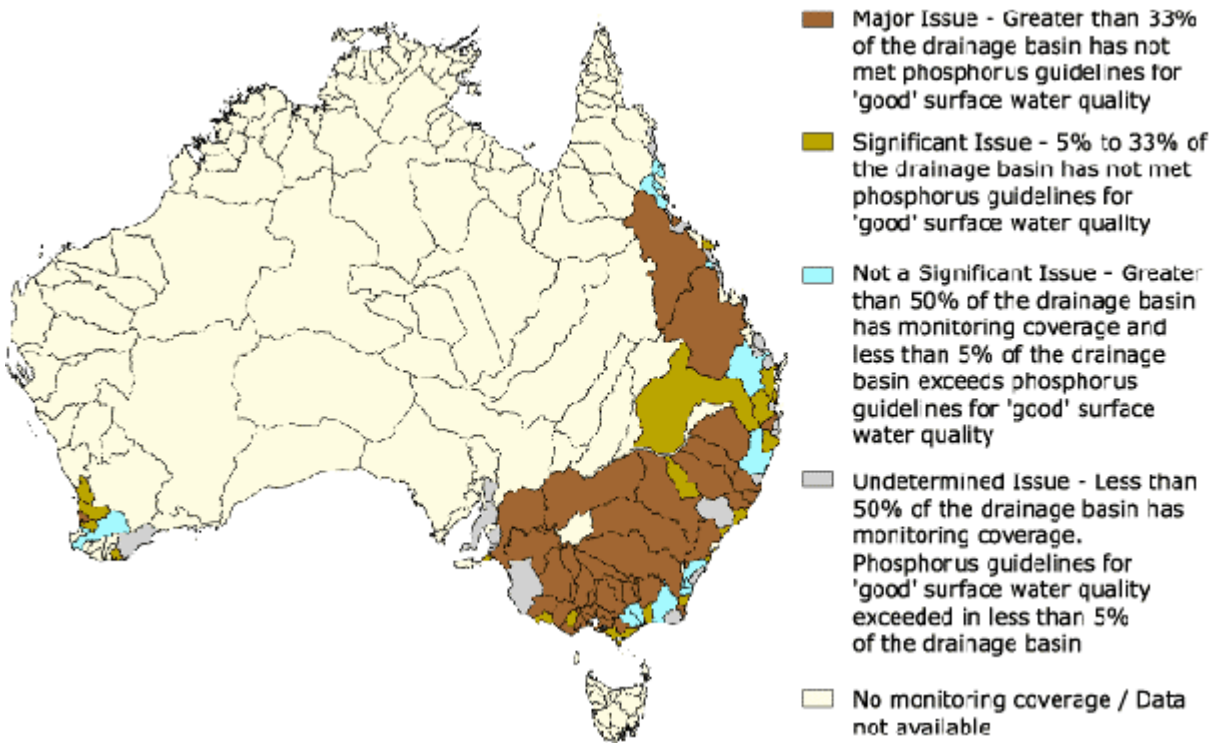
Best prospects exist for analyzing equipment, oxides of nitrogen (NOx) controls, and odor control equipment. Australian environmental firms have expressed a willingness to review the market potential of new types of APC equipment and, more generally, to enter into strategic alliances with their U.S. counterparts. The outlook for the Australian APC market is good and U.S. suppliers of APC equipment are encouraged to position themselves now.

Solutions Required to Manage Algal Blooms

Many of Australia's river pools and impoundments become stratified, with the bottom layer of water and sediments becoming oxygen deficient. This produces a change in bottom water and sediment chemistry and increases the movement of bioavailable phosphorus and nitrogen from the sediments to the water, thus increasing the risk of algal blooms.

The figure below presents an assessment of river systems that are at risk from eutrophication and algal blooms due to phosphorus concentrations in rivers, streams and storages exceeding state and territory water quality guidelines.

Figure 1: River systems where phosphorus levels exceed state guidelines for the protection of ecosystems



Source: National Land and Water Resources Audit 2001.

The last National state of the environment study was conducted by the Department of Environment and Heritage in 2001. This study found that phosphorus levels in rivers, streams and dams regularly exceeded state and territory water quality guidelines in all catchments of the Murray-Darling Basin except the Condamine in Queensland. Other river systems where phosphorus levels were considered a major issue were:

- Sydney and surrounding catchments
- northern New South Wales coastal catchments
- the coastal catchments of Melbourne and those west of the Victoria-South Australia border
- south-eastern Queensland and northern coastal catchments
- two small coastal drainage regions in Western Australia.

Phosphorus levels were lower in the less developed coastal areas of southern NSW, eastern Victoria and northern Queensland although they are still considered to be a significant issue is some sections of the river systems.

Reservoirs affected by algal blooms fall under the responsibility of regional councils. Many of these councils have expressed an openess to reviewing the effectiveness of alternative methods for managing algal blooms. For example, many reservoirs have installed destratification devices that increase water movement by physical agitation or increase the aeration of oxygen deficient water.

The National Pollutant Inventory – Emissions from the Electricity Supply Sector

The National Pollutant Inventory (NPI) is an internet database designed to provide the community, industry and government with information on the types and amounts of certain chemicals being emitted into the environment. Australian industrial facilities using more than a specified amount of the chemicals listed on the NPI reporting list were required to begin estimating emissions of these substances from July 1998.

The NPI assists with policy and program formulation at all levels of government. It has also helped focus attention on certain manufacturing processes which could be cleaner or more efficient.

Emissions from the Electricity Supply Sector

A total of 211 facilities in the electricity supply sector reported on 41 substances in the 2004-05 reporting year. Most facilities in this sector generate electricity from combustion of fossil fuels, although some use renewable technology. This sector is a major emitter of sulfur dioxide, carbon monoxide and oxides of nitrogen. Overall emissions from this sector were higher in 2004-05 then they were the previous year due to an increase in product output. However, there has been a reduction in the emission of particulate matter 10 micrometres or less, and total volatile organic compounds.

Table 1: Partial list of substances emitted from the electricity supply sector

Substance	Total (Kg/year)
Sulfur Dioxide	630,000,000
Oxides of Nitrogen	510,000,000
Carbon Monoxide	65,000,000
Hydrochloric Acid	49,000,000
Particulate Matter 10.0 um	45,000,000
Sulfuric Acid	5,700,000
Total Volatile Organic Compounds	3,200,000
Flouride Compounds	3,200,000
Baron and Compounds	850,000
Ammonia	250,000
Formaldehyde	170,000
Manganese and Compounds	32,000
Nitrogen	24,000
n-Hexane	23,000
Copper and Compounds	19,000
Acetaldehyde	13,000
Zinc and Compounds	12,000
Selenium and Compounds	11,000
Lead and Compounds	7,700
Cyanide compounds	7,100
Nickel and Compounds	6,800

Source: National Pollutant Inventory (www.npi.gov.au)

Contaminated Land Management in New South Wales

According to the New South Wales Environmental Protection Authority (NSW EPA), it is difficult to estimate the total number of contaminated sites in NSW as in many cases it is only after the polluting activity or land use has ceased, or the site is being prepared for redevelopment, that the contamination is discovered. Known contaminated sites tend to be clustered in areas that have historically been centers of heavy industry or transport hubs, such as Newcastle, Wollongong and south-eastern and mid-western Sydney, or chemically intensive agricultural activities, such as cattle tick dip sites in north-eastern NSW. There is also a significant legacy of derelict mines in NSW.

Once a site is identified as being contaminated, its owner is obliged to notify the authorities. Any site that poses a 'significant risk of harm' to human health and/or the environment, as defined by the Contaminated Land Management Act 1997, is regulated by the NSW EPA. Land contamination on other sites is dealt with by local councils through the planning and development control process, usually as part of approving a change in land use or a new development.

The EPA's regulatory activity under the Act continues to increase and there are currently more than 100 contaminated sites subject to notices under the Act. The number of sites under investigation by local government is unknown

Table 2: Types of contamination in sites currently regulated in NSW

Contaminant	No. of sites
Pesticides (organochlorine or organophosphate)	17
Metals (and metalloids)	37
Hydrocarbons	55
Organochlorines other than pesticides	20
Asbestos	17
Other	15

Source: EPA data, as at June 2002

Table 3: Former land uses of sites currently regulated in NSW

Former land use	No. of sites
Landfill	21
Gasworks	18
Cattle dip	11
Petrol station	14
Chemical industry	14
Metal processing works	8
Drum recycler	2
Other industry	22
Unclassified	9

Source: NSW EPA data, as at June 2002

As part of a NSW Government reform package for contaminated lands, the Contaminated Land Management Act 1997 was introduced to replace Part V of the Environmentally Hazardous Chemicals Act 1985. The new Act applied the polluter-pays principle and established a process for investigating and, where appropriate, remediating areas of land where contamination presented a significant risk of harm to either human health or the environment. The Act empowers the EPA to issue orders, declarations, notices or voluntary agreements to investigate or remediate an area or site that is contaminated.

There are also a number of programs addressing specific issues relating to contaminated lands in NSW including:

- NSW Agriculture's cattle tick dip and sheep dip sites program, which aims to decommission around 50 dip sites per year and has decommissioned almost 400 to date
- the Derelict Mines Program under the Mining Act 1992 through which funds are allocated for rehabilitation of disused mines
- controls on the use of agricultural chemicals under the Pesticides Act 1999 and the ChemCollect program for the collection and safe disposal of unwanted farm chemicals.

The Australian remediation industry relies, in part, on high-technology goods to supply remediation services. Technology and methods used in the North American market are recognized as more advanced than Australian methods. Opportunity therefore exists for U.S.-based technology to improve the services currently available in Australia.

Trade Leads

1. **Surfactant enhanced bioremediation**. A very large and well-established waste management service provider is seeking to identify a suitable U.S. supplier of surfactant enhanced bioremediation solutions.

2. **High Pressure Washers and Cleaners**. An Australian distributor of pumps and related equipment is specifically seeking a small to medium size manufacturer who doesn't have a presence in Australia but is able to offer competitive prices for engine driven pressure cleaners from 2000 psi to 4000 psi capacity.

3. **Hydrostatic Test Equipment**. An Australian distributor of pumps and related equipment is seeking to review the market potential of U.S.-made hydrostatic test equipment.

4. **Car Wash Management Systems**. An Australian supplier of environmental products is interested in representing a U.S. manufacturer of car wash management systems and technology.

For further information on any of the above trade leads please contact John Kanawati, U.S. Commercial Service, at: John.Kanawati@mail.doc.gov

End of report.